

RELATIONSHIP OF CD44 AND *Bcl-2* EXPRESSION TO NODAL RADIATION RESISTANCE IN NON-HODGKIN'S LYMPHOMAS

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Purpose: To examine the relationship of patient characteristics, oncogenes expression with one another and assess their correlation to nodal RT resistance in non-Hodgkin's lymphoma (NHL) patients.

Materials and Methods: 16 NHL patients after chemotherapy with nodal relapse were eligible in this study. Immunohistochemical stain with various monoclonal antibodies was applied to stored fixed-paraffin-embedded nodal biopsy specimen from 10 available patients. Univariate and multivariate analysis of relationship between variables were performed using Fisher's exact test and logistic regression model, respectively.

Results: We find that expression of CD44 is significant associated with nodal RT resistance in univariate analysis ($p=0.011$). Moreover, multivariate analysis of all variables by a logistic regression model reveals the significant association of CD44 and *bcl-2* overexpression to nodal RT resistance ($p=0.0112$ and 0.0455 , respectively).

Conclusion: The results suggest an important role of CD44 and *bcl-2* in a clinical predictive model of nodal RT responses in NHL patients.

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Key words: CD44, *bcl-2*, Non-Hodgkin's lymphoma, Radiation resistance

INTRODUCTION

Non-Hodgkin's lymphoma (NHL, also named malignant lymphoma) constitutes a varied and complex group of disease that must be differentiated from Hodgkin's disease. The ratio of NHL and Hodgkin's disease is about 3:1 in western countries and 9:1 in Taiwan. In general, most NHL are treated with chemotherapy using combination of chemotherapeutic regimens such as CHOP, M-BACOD, etc. Most NHL patients without complete remission after treatment of chemotherapeutic regimens would develop one or more sites of nodal relapse and

radiation therapy (RT) to local nodal lesions is treatment of choice for these patients.

Several previous investigations have focused on identifying the molecular / biological markers of drug resistance, such as p53, *bcl-2* [17] and Ki-67 [7], etc. Yet, there is no specific efforts focusing on identifying such markers for nodal RT resistance in NHL patients.

Standard form of CD44, a 90-kD glycoprotein, is a multifunctional surface molecule that mediates adhesion of lymphocytes both to vascular endothelium and to several extracellular matrix proteins [4]. Both overexpression of standard form (CD44S) [1] and variant form

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